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10/801,697	03/17/2004	Toshiaki Ishii	1021.43671X00	1862
20457 7590 09/22/2009 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER				
GRAYBILL, DAVID E				
ART UNIT		PAPER NUMBER		
2894				
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09/22/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/801,697

Applicant(s)

ISHII ET AL.

Examiner

David E. Graybill

Art Unit

2894

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 7-11, 13-16 and 18-31 is/are pending in the application.
- 4a) Of the above claim(s) 9-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 7, 8, 13-16 and 18-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date 3-25-09
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

The use of the trademark "invar" is noted in this application. It should be capitalized, or the description of the mark otherwise indicated, wherever it appears, and be accompanied by the generic terminology. See MPEP 608.01(v).

The specification is objected to as being insufficient because proper identification of the product sold under the trademark "invar" is omitted from the specification and such identification is deemed necessary under the principles set forth supra.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 7, 8, 13-16, and 18-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is insufficient antecedent basis for the following claim language:

Re claims 1 and 21: those of the multilayered wiring board and the polyimide wiring board.

Re claims 8 and 22: the electronic circuit apparatus.

Re claims 18 and 19: an automobile control unit according to claim 1.

Claims 30 and 31 contain the trademark "invar." Where, as here, a trademark is used in a claim as a limitation to identify a particular material or product, the claim does not comply with the requirements of 35

U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark cannot be used properly to identify any particular material or product. A trademark is used to identify a source of goods, and not the goods themselves. Thus, a trademark does not identify the goods associated with the trademark.

MPEP 2111.01 [R-5] Plain Meaning

I. THE WORDS OF A CLAIM MUST BE GIVEN THEIR "PLAIN MEANING" UNLESS **>SUCH MEANING IS INCONSISTENT WITH< THE SPECIFICATION

****> Although< claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination [emphasis added].** During examination, the claims must be interpreted as broadly as their terms reasonably allow. In *re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004) (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation >in light of the specification<.). This means that the words of the claim must be given their plain meaning unless **>the plain meaning is inconsistent with< the specification. In *re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (discussed below); *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004) (Ordinary, simple English words whose meaning is clear and unquestionable, absent any indication that their use in a particular context changes their meaning, are construed to mean exactly what they say. Thus, "heating the resulting batter-coated dough to a temperature in the range of about 400°F to 850°F" required heating the dough, rather than the air inside an oven, to the specified temperature.). **

>II. IT IS IMPROPER TO IMPORT CLAIM LIMITATIONS FROM THE SPECIFICATION

"Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim [emphasis added]. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment." *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875, 69 USPQ2d 1865, 1868 (Fed. Cir. 2004). See also *Liebel-Flarsheim Co. v. Medrad Inc.*, 358 F.3d 898, 906, 69 USPQ2d 1801, 1807 (Fed. Cir. 2004) (discussing recent cases wherein the court expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment); *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) ("Interpretation of descriptive statements in a patent's written description is a difficult task, as an inherent tension exists as to whether a statement is a clear lexicographic definition or a

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description of a preferred embodiment. The problem is to interpret claims in view of the specification' without unnecessarily importing limitations from the specification into the claims."); *Altiris Inc. v. Symantec Corp.*, 318 F.3d 1363, 1371, 65 USPQ2d 1865, 1869-70 (Fed. Cir. 2003) (Although the specification discussed only a single embodiment, the court held that it was improper to read a specific order of steps into method claims where, as a matter of logic or grammar, the language of the method claims did not impose a specific order on the performance of the method steps, and the specification did not directly or implicitly require a particular order). See also paragraph *IV.<, below.

*>When< an element is claimed using language falling under the scope of 35 U.S.C. 112, 6th paragraph (often broadly referred to as means or step plus function language)**, the specification must be consulted to determine the structure, material, or acts corresponding to the function recited in the claim. In *re Donaldson*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994) (see MPEP § 2181- § 2186). In *re Zletz*, supra, the examiner and the Board had interpreted claims reading "normally solid polypropylene" and "normally solid polypropylene having a crystalline polypropylene content" as being limited to "normally solid linear high homopolymers of propylene which have a crystalline polypropylene content." The court ruled that limitations, not present in the claims, were improperly imported from the specification. See also *In re Marosi*, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) ("Claims are not to be read in a vacuum, and limitations therein are to be interpreted in light of the specification in giving them their broadest reasonable interpretation." 710 F.2d at 802, 218 USPQ at 292 (quoting *In re Okuzawa*, 537 F.2d 545, 548, 190 USPQ 464, 466 (CCPA 1976)) (emphasis in original). The court looked to the specification to construe "essentially free of alkali metal" as including unavoidable levels of impurities but no more.). Compare *In re Weiss*, 989 F.2d 1202, 26 USPQ2d 1885 (Fed. Cir. 1993) (unpublished decision - cannot be cited as precedent) (The claim related to an athletic shoe with cleats that "break away at a preselected level of force" and thus prevent injury to the wearer. The examiner rejected the claims over prior art teaching athletic shoes with cleats not intended to break off and rationalized that the cleats would break away given a high enough force. The court reversed the rejection stating that when interpreting a claim term which is ambiguous, such as "a preselected level of force", we must look to the specification for the meaning ascribed to that term by the inventor." The specification had defined "preselected level of force" as that level of force at which the breaking away will prevent injury to the wearer during athletic exertion.**)

*>III. < "PLAIN MEANING" REFERS TO THE ORDINARY AND CUSTOMARY MEANING GIVEN TO THE TERM BY THOSE OF ORDINARY SKILL IN THE ART

"[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, *415 F.3d 1303, 1313<, 75 USPQ2d 1321>, 1326< (Fed. Cir. 2005) (en banc). *Sunrace Roots Enter. Co. v. SRAM Corp.*, 336 F.3d 1298, 1302, 67 USPQ2d 1438, 1441 (Fed. Cir. 2003); *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 67 USPQ2d 1132, 1136 (Fed. Cir. 2003)("In the absence of an express intent to impart a novel meaning to the claim terms, the words are presumed to take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art."). It is the use of the words in the context of the written description and customarily by those skilled in the relevant art that accurately reflects both the "ordinary" and the "customary" meaning of the terms in the claims. *Ferguson Beauregard /Logic Controls v. Mega Systems*, 350 F.3d 1327, 1338, 69 USPQ2d 1001, 1009 (Fed. Cir. 2003) (Dictionary definitions were used to determine the ordinary and customary

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meaning of the words "normal" and "predetermine" to those skilled in the art. In construing claim terms, the general meanings gleaned from reference sources, such as dictionaries, must always be compared against the use of the terms in context, and the intrinsic record must always be consulted to identify which of the different possible dictionary meanings is most consistent with the use of the words by the inventor.; ACTV, Inc. v. The Walt Disney Company, 346 F.3d 1082, 1092, 68 USPQ2d 1516, 1524 (Fed. Cir. 2003) (Since there was no >express< definition given for the term "URL" in the specification, the term should be given its broadest reasonable interpretation >consistent with the intrinsic record< and take on the ordinary and customary meaning attributed to it by those of ordinary skill in the art; thus, the term "URL" was held to encompass both relative and absolute URLs.); and E-Pass Technologies, Inc. v. 3Com Corporation, 343 F.3d 1364, 1368, 67 USPQ2d 1947, 1949 (Fed. Cir. 2003) (Where no explicit definition for the term "electronic multi-function card" was given in the specification, this term should be given its ordinary meaning and broadest reasonable interpretation; the term should not be limited to the industry standard definition of credit card where there is no suggestion that this definition applies to the electronic multi-function card as claimed, and should not be limited to preferred embodiments in the specification.). The ordinary and customary meaning of a term may be evidenced by a variety of sources, >including "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art."< Phillips v. AWH Corp., *415 F.3d at 1314<, 75 USPQ2d **> at 1327.< If extrinsic reference sources, such as dictionaries, evidence more than one definition for the term, the intrinsic record must be consulted to identify which of the different possible definitions is most consistent with applicant's use of the terms. Brookhill-Wilk 1, 334 F. 3d at 1300, 67 USPQ2d at 1137; see also Renishaw PLC v. Marposs Societa ' per Azioni, 158 F.3d 1243, 1250, 48 USPQ2d 1117, 1122 (Fed. Cir. 1998) ("Where there are several common meanings for a claim term, the patent disclosure serves to point away from the improper meanings and toward the proper meanings.") and Vitronics Corp. v. Conceptronc Inc., 90 F.3d 1576, 1583, 39 USPQ2d 1573, 1577 (Fed. Cir. 1996) (construing the term "solder reflow temperature" to mean "peak reflow temperature" of solder rather than the "liquidus temperature" of solder in order to remain consistent with the specification.). If more than one extrinsic definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all consistent meanings. ** See *e.g.,< Rexton Corp. v. Laitram Corp., 274 F.3d 1336, 1342, 60 USPQ2d 1851, 1854 (Fed. Cir. 2001)(explaining the court's analytical process for determining the meaning of disputed claim terms); Toro Co. v. White Consol. Indus., Inc., 199 F.3d 1295, 1299, 53 USPQ2d 1065, 1067 (Fed. Cir. 1999)("[W]ords in patent claims are given their ordinary meaning in the usage of the field of the invention, unless the text of the patent makes clear that a word was used with a special meaning."). Compare MSM Investments Co. v. Carolwood Corp., 259 F.3d 1335, 1339-40, 59 USPQ2d 1856, 1859-60 (Fed. Cir. 2001) (Claims directed to a method of feeding an animal a beneficial amount of methylsulfonylmethane (MSM) to enhance the animal's diet were held anticipated by prior oral administration of MSM to human patients to relieve pain. Although the ordinary meaning of "feeding" is limited to provision of food or nourishment, the broad definition of "food" in the written description warranted finding that the claimed method encompasses the use of MSM for both nutritional and pharmacological purposes.); and Rapoport v. Dement, 254 F.3d 1053, 1059-60, 59 USPQ2d 1215, 1219-20 (Fed. Cir. 2001) (Both intrinsic evidence and the plain meaning of the term "method for treatment of sleep apneas" supported construction of the term as being limited to treatment of the underlying sleep apnea disorder itself, and not encompassing treatment of anxiety and other secondary symptoms related to sleep apnea.).

The scope of the following language is unclear because the language is not clearly defined in the disclosure, and its meaning is otherwise indeterminable:

Re claim 8: transmission fluid.

Re claims 8 and 21-30: automobile control unit.

It is particularly unclear how the term "transmission" structurally limits the term "fluid" and how the language "automobile control unit" structurally limits the claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

In the rejections *infra*, generally, reference labels and other claim element identifiers are recited only for the first recitation of identical claim elements.

Claims 1, 7, 14, 16, 18-22, 24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Clayton (6049975), Higashiguchi (6023098) and Abbot (20030137032).

At column 4, line 59 to column 9, line 24; column 10, lines 39-61; column 11, line 31 to column 12, line 25; column 17, lines 7-29; column 17, line 53 to column 19, line 45; column 20, lines 21-32; column 22, lines 32-53; column 29, lines 32-51; and column 30, lines 44-55, Clayton discloses the following:

Re claim 1: An electronic circuit apparatus comprising: a multilayered wiring board 50 mounted with at least two electronic components 54; a polyamide wiring board 50 mounted with at least one heat generating component 54; a heat sink 48 having an inherently higher heat conductivity than those of the multilayered wiring board and the polyamide wiring board, wherein the multilayered wiring board is fixed to one surface of the heat sink via adhesive 52 and the polyamide wiring board is fixed to another surface 48' of the heat sink via a adhesive 52; an external connection terminal (60

and "conductive lines and traces routed across the surface") to which the multilayered wiring board and/or the polyamide wiring board is electrically connected; and a resin composition 70 with which the entire surfaces of the multilayered wiring board and the polyamide wiring board, a part of the heat sink and a part of the external connection terminal (at least "conductive lines and traces routed across the surface") are integrally molded.

Re claim 7: The electronic circuit apparatus according to claim 1, wherein a part of a passage "entrance and exit channels" for circulating a cooling medium "coolant" is inherently formed in an external layer 48 of the electronic circuit apparatus.

Re claim 14: The electronic circuit apparatus according to claim 1, wherein the heat sink is made of a clad "plated" material containing a copper alloy or copper.

Re claim 16: The electronic circuit apparatus according to claim 1, wherein the multilayered wiring board comprises at least one ceramic substrate.

Re claim 18: An inherent automobile control unit according to claim 1, wherein the polyamide wiring board is bent at least one end such that the polyamide wiring board is fixed to the another surface of the heat sink via the adhesive and fixed at the at least one end to the one surface of the heat sink.

Re claim 19: An automobile control unit according to claim 18, wherein the multilayered wiring board and the polyamide wiring board are electrically connected.

Re claim 21: An automobile control unit comprising: a multilayered wiring board mounted with at least two electronic components; a polyamide wiring board mounted with at least one heat generating component; a heat sink having a higher heat conductivity than those of the multilayered wiring board and the polyamide wiring board, wherein the multilayered wiring board is fixed to one surface of the heat sink via adhesive and the polyamide wiring board is fixed to another surface of the heat sink via a adhesive; an external connection terminal to which the multilayered wiring board and/or the polyamide wiring board is electrically connected; and a thermosetting resin composition with which the entire surfaces of the multilayered wiring board and the polyamide wiring board, a part of the heat sink and a part of the external connection terminal are integrally molded.

Re claim 22: An automobile control unit according to claim 21, wherein a part of a passage for circulating a cooling medium is formed in an external layer of the electronic circuit apparatus.

Re claim 24: An automobile control unit according to claim 21, wherein the heat sink is made of a clad material containing a copper alloy or copper "copper-nickel alloys".

Re claim 26: An automobile control unit according to claim 21, wherein the multilayered wiring board comprises at least one ceramic substrate.

Re claim 27: An automobile control unit according to claim 21, wherein the polyamide wiring board is bent at least one end such that the polyamide wiring board is fixed to the another surface of the heat sink via the adhesive and fixed at the at least one end to the one surface of the heat sink.

Re claim 28: An automobile control unit according to claim 27, wherein the multilayered wiring board and the polyamide wiring board are electrically connected.

The following is further clarified:

Re claim 1: heat sink 48 having an inherently higher heat conductivity than those of the multilayered wiring board and the polyamide wiring board.

Re claim 21: heat sink having a higher heat conductivity than those of the multilayered wiring board and the polyamide wiring board.

In particular, Clayton discloses that the heat sink is "copper-nickel alloys," and copper-nickel alloys inherently have a higher heat conductivity than the polyamide multilayered wiring boards.

Nonetheless, it would have been obvious to provide this/these claimed relative heat conductivity dimensional limitation(s) because it has been held that mere dimensional limitations are prima facie obvious absent a

disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical.

See, for example, *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Furthermore, it would have been obvious to try this/these particular claimed heat conductivity dimension(s) because a change in dimension would have been a known option within the technical grasp of a person of ordinary skill in the art, and:

"[T]he court erred in concluding that a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try. ... The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was 'obvious to try.' ... [A] person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. ... [T]he fact that a combination was obvious to try might show that it was obvious under §103." *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). See also, *Pfizer Inc. v. Apotex Inc.*, 82 USPQ2d 1852 (Fed. Cir. 2007); *In re Kubin*, 90 USPQ2d 1417 (Fed. Cir. 2009).

Also, as cited, Clayton discloses that the heat sink and wiring board heat conductivities is a/result effective variable(s).

Therefore, it would have been obvious to try variations of this/these result effective variable(s), including the claimed variation(s) because:

"[T]he court erred in concluding that a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try. ... The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was 'obvious to try.' ... [A] person of ordinary skill in the art has good reason to pursue the known options within his or her

technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. ... [T]he fact that a combination was obvious to try might show that it was obvious under §103." KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007). See also, Pfizer Inc. v. Apotex Inc., 82 USPQ2d 1852 (Fed. Cir. 2007); In re Kubin, 90 USPQ2d 1417 (Fed. Cir. 2009); In re Aller, Lacey, and Hall, 105 USPQ 233 (C.C.P.A. 1955).

Moreover, as reasoned from well established legal precedent, it would have been an obvious matter of design choice bounded by well known manufacturing constraints and ascertainable by routine experimentation and optimization to choose the particular claimed heat conductivity limitation(s) because applicant has not disclosed that, in view of the applied prior art, the limitation(s) is/are for a particular unobvious purpose, produce(s) an unexpected result, or is/are otherwise critical. For that matter, applicant has not disclosed that the particular limitation(s) is/are for **any** purpose or produce(s) **any** result. Indeed, it has been held that optimization of parameters and range limitations is prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical.

See MPEP 2144.05(II): "Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. '[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.'"

Also see In re Aller, 220 F.2d 454, 105 USPQ 233, 235 (CCPA 1955); In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969), Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989), and In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990). As set forth in MPEP 2144.05(III), "Applicant can rebut a prima facie case of obviousness based on overlapping ranges by

showing the criticality of the claimed range. 'The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.' In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP § 716.02 - § 716.02(g) for a discussion of criticality and unexpected results."

Still further, it would have been obvious to try the heat sink 48 having a higher heat conductivity than those of the multilayered wiring board and the polyamide wiring board because a person of ordinary skill would be motivated to solve the problem of heat conductivity of the heat sink and wiring boards and there are a finite number of readily identified, predictable solutions; namely, the heat sink 48 having a higher, lower or equal heat conductivity than those of the multilayered wiring board and the polyamide wiring board; and:

"[T]he court erred in concluding that a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try. ... The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was 'obvious to try.' ... "When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense. ... [T]he fact that a combination was obvious to try might show that it was obvious under §103." KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007). See also, Pfizer Inc. v. Apotex Inc., 82 USPQ2d 1852 (Fed. Cir. 2007); In re Kubin, 90 USPQ2d 1417 (Fed. Cir. 2009).

Similarly, the genus of the heat conductivities of the heat sink and the wiring boards would inherently anticipate the species of the heat sink having a higher heat conductivity than those of the multilayered wiring board and

the polyamide wiring board because the genus contains only 9 species; namely, the species of the heat sink having a higher, lower or equal heat conductivity than those of the wiring boards, and one skilled in the art would at once envisage each species of the genus. MPEP 2144.08II4(a): . . . "it has been held that a prior art genus containing only 20 compounds and a limited number of variations in the generic chemical formula inherently anticipated a claimed species within the genus because 'one skilled in [the] art would... [at once] envisage each member' of the genus. In re Petering, 301 F.2d 676, 681, 133 USPQ 275, 280 (CCPA 1962) (emphasis in original)."

The following is further clarified:

Re claim 7: wherein a part of a passage "entrance and exit channels" for circulating a cooling medium "coolant" is inherently formed in an external layer of the electronic circuit apparatus.

Re claim 22: An automobile control unit according to claim 21, wherein a part of a passage for circulating a cooling medium is formed in an external layer of the electronic circuit apparatus.

In particular, it is inherent that the entrance and exit channels must communicate with a coolant passage formed in an external layer of the apparatus.

The following is further clarified:

Re claims 8 and 21-30: an inherent automobile control unit.

In particular, the language, "automobile control unit" has been given no patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where, as here, it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

In any case, the language, "automobile control" is merely a statement of intended use of the unit that does not appear to result in a structural difference between the claimed unit and the unit of Clayton.

Further, because the invention of Clayton appears to have the same structure as the claimed structure, it appears to be capable of being used for the intended use of automobile control, and the statement of intended use does not patentably distinguish the claimed structure from the structure of Clayton.

See *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963) (Court held that the purpose or intended use of hair curling was of no significance to the structure and process of making). The manner in which a product operates is not germane to the issue of patentability of the product; Ex parte Wikdahl 10 USPQ 2d 1546, 1548 (BPAI 1989); Ex parte McCullough 7 USPQ 2d 1889, 1891 (BPAI 1988); *In re Finsterwalder* 168 USPQ 530 (CCPA 1971); *In re Casey* 152 USPQ 235, 238 (CCPA 1967). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). "Apparatus

claims cover what a device is, not what a device does [or is intended to do]." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Also, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."; *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). And, "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims."; *In re Young*, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 136 USPQ 458, 459 (CCPA 1963)).

However, Clayton does not appear to explicitly disclose the following:

Re claims 1 and 21: a polyimide wiring board.

Nonetheless, Clayton discloses a polyamide wiring board.

Furthermore, at column 6, lines 4-6, Higashiguchi discloses that polyamide and polyimide are alternatives and equivalents.

Therefore, as reasoned from well established legal precedent, it would have been obvious to substitute or combine the polyimide of Higashiguchi for or with the polyamide of Clayton.

See *In re May* (CCPA) 136 USPQ 208 (It is our opinion that the substitution of Wille's type seal for the cement of Hallauer in Figure 1 would be obvious to persons of ordinary skill in the art from the disclosures of these references, merely involving an obvious selection between known alternatives in the art and the application of routine technical skills.); *In re Cornish* (CCPA) 125 USPQ 413; *In re Soucy* (CCPA) 153 USPQ 816; *Sabel et al. v. The Wickes Corporation et al.* (DC SC) 175 USPQ 3; *Ex parte Seiko Koko Kabushiki Kaisha Co.* (BdPatApp&Int) 225 USPQ 1260; and *Ex parte Rachlin* (BdPatApp&Int) 151 USPQ 56. See also *Smith v. Hayashi*, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the

same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted). See also In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); Ex parte Quadranti, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

In addition, it would have been obvious to try the substitution or combination of the polyimide of Higashiguchi for or with the polyamide of Clayton because the substitution of, or combination with, one known alternative element for or with another would have yielded predictable results to one of ordinary skill in the art at the time of the invention; and:

"Such a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. ... [T]he court erred in concluding that a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try. ... The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was 'obvious to try.'... [T]he fact that a combination was obvious to try might show that it was obvious under §103." KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007). See also, Pfizer Inc. v. Apotex Inc., 82 USPQ2d 1852 (Fed. Cir. 2007); In re Kubin, 90 USPQ2d 1417 (Fed. Cir. 2009).

Also, it would have been obvious to substitute or combine the polyimide of Higashiguchi for at least some of the polyamide of Clayton because it would facilitate provision of the wiring board of Clayton, and substitution or combination of a known element based on its suitability for its intended use has been held to be prima facie obvious.

See Ryco, Inc. v. Ag-Bag Corp., 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988) (Claimed agricultural bagging machine, which differed from a prior art machine only in that the brake means were hydraulically operated rather than mechanically operated, was held to be obvious over the prior art machine in view of references which disclosed hydraulic brakes for

performing the same function, albeit in a different environment); and MPEP 2144.07.

Moreover, this combination of Clayton and Higashiguchi provides the heat sink 48 having an inherently and obvious higher heat conductivity than that of the polyimide wiring board for the same reasons Clayton is applied to show the heat sink having an inherently and obviously higher heat conductivity than that of the polyamide wiring board.

However, Clayton does not appear to explicitly disclose the following:

Re claims 1 and 21: thermosetting resin composition.

Nonetheless, at paragraphs 7, 48, 54, 55, 62 and claim 8, Abbott discloses a thermosetting resin composition 311.

Moreover, the thermosetting resin composition of Abbot and the resin composition of Clayton are known alternatives in the art.

Therefore, as reasoned from well established legal precedent, it would have been obvious to substitute or combine the thermosetting resin composition of Abbot for or with the resin composition of Clayton.

See *In re May* (CCPA) 136 USPQ 208 (It is our opinion that the substitution of Wille's type seal for the cement of Hallauer in Figure 1 would be obvious to persons of ordinary skill in the art from the disclosures of these references, merely involving an obvious selection between known alternatives in the art and the application of routine technical skills.); *In re Cornish* (CCPA) 125 USPQ 413; *In re Soucy* (CCPA) 153 USPQ 816; *Sabel et al. v. The Wickes Corporation et al.* (DC SC) 175 USPQ 3; *Ex parte Seiko Koko Kabushiki Kaisha Co.* (BdPatApp&Int) 225 USPQ 1260; and *Ex parte Rachlin* (BdPatApp&Int) 151 USPQ 56. See also *Smith v. Hayashi*, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic

environment as a photoconductor." 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. In re Fout, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted). See also In re Crockett, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); Ex parte Quadranti, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

In addition, it would have been obvious to substitute or combine the thermosetting resin composition of Abbot for or with the resin composition of Clayton because the substitution of, or combination with, one known alternative element for or with another would have yielded predictable results to one of ordinary skill in the art at the time of the invention; and:

"Such a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. ... [T]he court erred in concluding that a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try. ... The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was 'obvious to try.'... [T]he fact that a combination was obvious to try might show that it was obvious under §103." KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007). See also, Pfizer Inc. v. Apotex Inc., 82 USPQ2d 1852 (Fed. Cir. 2007); In re Kubin, 90 USPQ2d 1417 (Fed. Cir. 2009).

Also, it would have been obvious to substitute or combine the thermosetting resin composition of Abbot for at least some of the resin composition of Clayton because it would facilitate provision of the resin composition of Clayton, and substitution or combination of a known element based on its suitability for its intended use has been held to be prima facie obvious.

See *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988) (Claimed agricultural bagging machine, which differed from a prior art machine only in that the brake means were hydraulically operated rather than mechanically operated, was held to be obvious over the prior art machine in view of references which disclosed hydraulic brakes for performing the same function, albeit in a different environment; and MPEP 2144.07.

Still further, it would have been obvious to combine this disclosure of Abbot with the disclosure of Clayton because, as disclosed by Abbott as cited, it would provide good adhesion of the resin composition and heat sink of Clayton.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton, Higashiguchi and Abbot as applied to claim 22, and further in combination with Thorum (20020088304).

Clayton discloses the following:

Re claim 8: said cooling medium is an inherent transmission fluid "gas or liquid".

To further clarify, the language "transmission fluid" is a statement of intended use.

Moreover, Clayton discloses an inherent transmission fluid because the term "transmission" merely limits the scope of the term "fluid" to the purpose/intended use of the fluid as transmission fluid, and does not appear to result in a manipulative/structural difference between the claimed process/structure and the process/structure of Clayton.

Furthermore, because the fluid of Clayton appears to be the same process/structure as the claimed fluid, it appears to be capable of being used for the same purpose/intended use and the purpose/intended use does not patentably distinguish the claimed process/structure from the process/structure of Clayton.

See *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963) (Court held that the purpose or intended use of hair curling was of no significance to the process and structure of making). The manner in which a product operates is not germane to the issue of patentability of the product; *Ex parte Wikdahl* 10 USPQ 2d 1546, 1548 (BPAI 1989); *Ex parte McCullough* 7 USPQ 2d 1889, 1891 (BPAI 1988); *In re Finsterwalder* 168 USPQ 530 (CCPA 1971); *In re Casey* 152 USPQ 235, 238 (CCPA 1967). And, claims directed to product must be distinguished from the prior art in terms of structure rather than function. *In re Danley*, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does [or is intended to do]." *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Also, "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim."; *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). And, "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims."; *In re Young*, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 136 USPQ 458, 459 (CCPA 1963)).

However, Clayton, Higashiguchi and Abbot do not appear to explicitly disclose the following:

Re claim 8: A structure for mounting the automobile control unit of claim 22, wherein the electronic circuit apparatus is fixed on the interior of an automatic transmission assembly of an automobile.

Notwithstanding, at paragraphs 33-37, Thorum discloses wherein an electronic circuit apparatus 14 is fixed on the interior of an automatic transmission assembly 12 of an automobile.

Moreover, it would have been obvious to combine this disclosure of Thorum with the disclosure of the applied prior art because it would facilitate provision and cooling of the apparatus of Thorum and it would provide a use for the electronic circuit apparatus of Clayton, Higashiguchi and Abbot.

Claims 13, 15, 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton, Higashiguchi and Abbot as applied to claims 1 and 21 and further in combination with Vargo (20030152766).

Clayton discloses the following:

Re claims 13 and 23: wherein the heat sink is made of a metal compound with electrical conductivity.

However, Clayton, Higashiguchi and Abbot do not appear to explicitly disclose the following:

Re claims 13 and 23: the adhesive is formed by an insulating organic paste.

Re claims 15 and 25: the adhesive is made of a thermosetting resin composition containing an epoxy resin and an inorganic filler

Still, at paragraphs 59 and 100, Vargo discloses wherein the adhesive is formed by an insulating organic paste, and the adhesive is made of a

thermosetting resin composition containing an epoxy resin and an inorganic filler.

Moreover, the adhesives of Vargo and Clayton are known alternatives in the art.

Therefore, as reasoned from well established legal precedent, it would have been obvious to substitute or combine the adhesive of Vargo for or with the adhesive of Clayton.

See *In re May* (CCPA) 136 USPQ 208 (It is our opinion that the substitution of Wille's type seal for the cement of Hallauer in Figure 1 would be obvious to persons of ordinary skill in the art from the disclosures of these references, merely involving an obvious selection between known alternatives in the art and the application of routine technical skills.); *In re Cornish* (CCPA) 125 USPQ 413; *In re Soucy* (CCPA) 153 USPQ 816; *Sabel et al. v. The Wickes Corporation et al.* (DC SC) 175 USPQ 3; *Ex parte Seiko Koko Kabushiki Kaisha Co.* (BdPatApp&Int) 225 USPQ 1260; and *Ex parte Rachlin* (BdPatApp&Int) 151 USPQ 56. See also *Smith v. Hayashi*, 209 USPQ 754 (Bd. of Pat. Inter. 1980) (However, there was evidence that both phthalocyanine and selenium were known photoconductors in the art of electrophotography. "This, in our view, presents strong evidence of obviousness in substituting one for the other in an electrophotographic environment as a photoconductor." 209 USPQ at 759.). An express suggestion to substitute one equivalent component or process for another is not necessary to render such substitution obvious. *In re Fout*, 675 F.2d 297, 213 USPQ 532 (CCPA 1982). "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) (citations omitted). See also *In re Crockett*, 279 F.2d 274, 126 USPQ 186 (CCPA 1960); *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992).

In addition, it would have been obvious to substitute or combine the adhesive of Vargo for or with the adhesive of Clayton because the substitution of, or combination with, one known alternative element for or

with another would have yielded predictable results to one of ordinary skill in the art at the time of the invention; and:

"Such a combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. ... [T]he court erred in concluding that a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try. ... The same constricted analysis led the Court of Appeals to conclude, in error, that a patent claim cannot be proved obvious merely by showing that the combination of elements was 'obvious to try.'... [T]he fact that a combination was obvious to try might show that it was obvious under §103." KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385 (U.S. 2007). See also, Pfizer Inc. v. Apotex Inc., 82 USPQ2d 1852 (Fed. Cir. 2007); In re Kubin, 90 USPQ2d 1417 (Fed. Cir. 2009).

Also, it would have been obvious to substitute or combine the adhesive of Vargo for at least some of the adhesive of Clayton because it would facilitate provision of the adhesive of Clayton, and substitution or combination of a known element based on its suitability for its intended use has been held to be prima facie obvious.

See Ryco, Inc. v. Ag-Bag Corp., 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988) (Claimed agricultural bagging machine, which differed from a prior art machine only in that the brake means were hydraulically operated rather than mechanically operated, was held to be obvious over the prior art machine in view of references which disclosed hydraulic brakes for performing the same function, albeit in a different environment; and MPEP 2144.07.

Claims 20 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton, Higashiguchi and Abbot as applied to claims 7 and 22, and further in combination with Weld (5696405).

Clayton, Higashiguchi and Abbot do not appear to explicitly disclose the following:

Re claims 20 and 29: the part of the passage for circulating a cooling medium is formed in the thermosetting resin composition.

Regardless, at column 3, lines 8-21, Weld discloses wherein a part of a passage 30 for circulating a cooling medium is formed in a resin composition 22.

Furthermore, it would have been obvious to combine this disclosure of Weld with the disclosure of the applied prior art because it would facilitate cooling of the product of the applied prior art.

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clayton, Higashiguchi and Abbot as applied to claims 1 and 21, and further in combination with Hortaleza (20040012078).

Clayton, Higashiguchi and Abbot do not appear to explicitly disclose the following:

Re claim 30: An automobile control unit according to claim 21, wherein the heat sink is made of a clad material having copper-invar-copper layers.

Re claim 31: The electronic circuit apparatus according to claim 1, wherein the heat sink is made of a clad material having copper-invar-copper layers.

Notwithstanding, at paragraph 45, Hortaleza discloses the heat sink 620 is made of a "clad" material having copper-invar-copper layers.

Moreover, it would have been obvious to combine this disclosure of Hortaleza with the disclosure of the applied prior art because, as disclosed by Hortaleza, it would provide the heat sink with a desirable relatively low coefficient of thermal expansion.

Applicant's amendment and remarks filed 6-26-08 have been fully considered, treated supra and further addressed infra.

Applicant alleges:

"Thus, the electronic components 54 are individual electronic devices and are not mounted on the thin laminate circuit 50. Thus, the Clayton patent does not disclose an electronic circuit apparatus or automobile control unit including a multilayer wiring board mounted with at least two electronic components and a polyimide wiring board mounted with at least one heat generating component fixed to opposite surfaces of a heat sink, as presently claimed. ... Furthermore, Clayton does not disclose the combined use of a multilayered wiring board and a polyimide wiring board, whereby the multilayered wiring board is disposed on one surface of a heat sink and the polyimide wiring board is disposed on the other surface thereof, and whereby a heat generating component is mounted on the polyimide wiring board."

These allegations are respectfully deemed unpersuasive because the scope of the instant claims is not limited to wherein the electronic components are not individual electronic devices and are mounted on the thin laminate circuit; or an electronic circuit apparatus or automobile control unit including a multilayer wiring board mounted with at least two electronic components and a polyimide wiring board mounted with at least one heat generating component fixed to opposite surfaces of a heat sink; or the combined use of a multilayered wiring board and a polyimide wiring board, whereby the multilayered wiring board is disposed on one surface of a heat

sink and the polyimide wiring board is disposed on the other surface thereof, and whereby a heat generating component is mounted on the polyimide wiring board.

In addition, Clayton is not necessarily applied for these disclosures.

Applicant also contends:

"Persons of ordinary skill in the art could not easily have conceived of the automobile control unit of the present invention that realizes high-density mounting and heat-dissipating characteristics, based on the multichip module described in Clayton, which does not take into consideration application of such a circuit board to an automobile control unit and the use thereof in a high-temperature environment."

These contentions are respectfully deemed unpersuasive because it is not necessarily maintained in the Office action that persons of ordinary skill in the art could easily have conceived of the alleged instant invention that, allegedly, Clayton does not take into consideration.

Also, applicant conjectures:

"Even if one were to use the flexible circuit boards of Higashiguchi et al. in the multichip module of Clayton, it would appear that one would substitute the flexible circuit boards of Higashiguchi et al. for both of the thin laminate circuits 50 of Clayton. Again, this combination would not render obvious the combined use of a multilayered wiring board and a polyimide wiring board on opposite sides of the heat sink, as presently claimed."

This conjecture is respectfully deemed unpersuasive because Clayton and Higashiguchi are not necessarily applied as conjectured.

Applicant further asserts:

"There is absolutely no reason in Vargo et al., or in any of the other prior art, for one of ordinary skill in the art to have applied the adhesive described in Vargo et al. to adhere a wiring board to a heat sink."

This assertion is respectfully traversed because sufficient and proper rationale to combine Vargo with the applied prior art is elucidated in the Office action.

For information on the status of this application applicant should check PAIR: Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alternatively, applicant may contact the File Information Unit at (703) 308-2733. Telephone status inquiries should not be directed to the examiner. See MPEP 1730VIC, MPEP 203.08 and MPEP 102.

Any other telephone inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Graybill at (571) 272-1930. Regular office hours: Monday through Friday, 8:30 a.m. to 6:00 p.m.
The fax phone number for group 2800 is (571) 273-8300.

/David E Graybill/
Primary Examiner, Art Unit 2894